UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF PREVENTION,
PESTICIDES AND
TOXIC SUBSTANCES

Chemical: Flumetsulam
PC Code: 129016
DP Barcodes: D325397

MEMORANDUM

DATE: June 9, 2006

SUBJECT: Transmittal of the Environmental Fate and Effects Division's (EFED) Registration Science Chapter for the Ecological Risk Assessment of Flumetsulam New Uses on Dry Beans

FROM: Colleen Flaherty, Biologist 09 June 2006
Thuy Nyugen, Senior Scientist
Environmental Risk Branch 3
Environmental Fate and Effects Division (7507P)

THRU: Daniel Rieder, Branch Chief 6/9/06
Environmental Risk Branch 3
Environmental Fate and Effects Division (7507P)

TO: Joanne Miller, RM 23
Herbicide Branch
Registration Division (7505P)

Attached please find the Environmental Fate and Effects Division's (EFED) ecological risk assessment for the proposed registration of flumetsulam (*N*-(2,6-difluorophenyl)-5-methyl[1,2,4]triazolo[1,5-*a*]pyrimidine-2-sulfonamide) (Python® WDG), a sulfonanilide herbicide, for use on kidney beans, navy beans, and pinto beans as a pre-plant incorporated, pre-plant surface, or pre-emergence treatment. Flumetsulam is in a class of sulfonylurea herbicides that are noted for having toxic effects on plants at extremely low rates. Environmental exposures were predicted assuming a single ground application at a rate of 0.07 lbs. a.i./A. Both surface application and soil incorporation (2 inches) were taken into account for aquatic and terrestrial modeling purposes.

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Risk Conclusions

Aquatic plants have the potential to be exposed to flumetsulam via drift and run-off from the proposed use on dry beans. Available phytotoxicity data indicate that non-vascular plants are more sensitive to flumetsulam than vascular plants. Risk quotients for endangered non-vascular plants exceed the level of concern for both the surface and soil incorporation application scenarios. However, there are no endangered non-vascular plants at this time.

Non-target terrestrial plants have the potential to be exposed to flumetsulam via drift and/or runoff from treated fields. Exposures to non-target terrestrial plants were predicted assuming standard drift and runoff scenarios using a Tier-1 model. Based on multiple lines of evidence, flumetsulam poses a risk to non-target terrestrial and semi-aquatic plants. Risk quotients for listed and non-listed plants (both monocots and dicots) exceed the Agency's level of concern. This risk conclusion is supported by hundreds of adverse ecological incidents resulting from flumetsulam exposure to non-target plants. Since its registration, flumetsulam has been implicated in over 350 adverse ecological incidents on terrestrial plants. There is a potential for direct effects to many listed plants, and there is a potential for indirect effects for animals that rely on plants, such as birds, terrestrial-phase amphibians, reptiles, mammals, and terrestrial invertebrates.

Based on available ecotoxicity data and predicted environmental exposures, risks to aquatic animals and plants and terrestrial animals as a result of the use of flumetsulam on dry beans appear to be minimal.

Suggestions for Hazard Labeling

Non-target Plants

"This pesticide is extremely toxic to terrestrial plants."

End Use Products

"Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate."

Ground Water Advisory

"Flumetsulam is known to leach through soil into ground water under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination."

Surface Water Advisory

"This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level,

well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours."

Data Gaps

This aquatic exposure assessment for flumetsulam is based on environmental fate studies that have only been preliminarily reviewed, but not approved according to EFED guidelines. Data gaps will be determined following the full review of these studies.

The ecotoxicity data set for flumetsulam is fairly complete. Chronic toxicity data for saltwater animals are unavailable, but this is not a major limitation of the assessment given that flumetsulam is practically non-toxic to saltwater animals on an acute basis and is minimally toxic to freshwater animals on a chronic basis.